UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,155	08/04/2003	Hiroshi Ogawa	10746/36	6333

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EXAMINER
GELAGAY, SHEWAYE

ART UNIT	PAPER NUMBER
2137	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/634,155	OGAWA ET AL.
	Examiner	Art Unit	
	SHEWAYE GELAGAY	2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _14 April 2008_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-4,7-10,13-16 and 19-24_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-4,7-10,13-16, 19-24_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
        1.☐ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/14/08

has been entered.

Response to Arguments

2.   Applicant's arguments filed 4/14/08 have been considered but are moot in view of

the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine,
> manufacture, or composition of matter, or any new and useful improvement
> thereof, may obtain a patent therefor, subject to the conditions and requirements
> of this title.

4.   Claims 7-10, 13-16 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter. Claims 7, 9, 13 and 15 are means

plus function and consists solely of language that is implemented with only software.

Claims 7, 9, 13 and 15 do not provide any functional interrelationship to any software

and hardware structural components to provide certain function that is processed by a

computer. Therefore, the claims are not statutory.

5.   Claims 8, 10, 14, and 16 are also rejected for the same rationale.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1, 3, 7, 9, 13, 15, 19, 21 and 23 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Cox et al. (hereinafter Cox) US Patent Number 5,915,027 in

view of Applicants Own Admitted Art (hereinafter Admission).

As per claims 1, 7, 13 and 19:

        Cox teaches a method for embedding digital watermark data in digital data

contents, said method comprising the steps of:

        receiving said digital data contents and said digital watermark data; (col. 8, lines

36-39)

                dividing said digital data contents into block data; (col. 8, lines 36-39)

                obtaining a frequency coefficient of said block data; (col. 8, lines 40-54)

                obtaining a complexity of said block data; (col. 8, lines 40-54)

                obtaining an amount of transformation of said frequency coefficient from said

complexity and said digital watermark data by using a quantization width; (col. 8, lines

40-54; col. 10, lines 13-44)

embedding said digital watermark data in said digital data contents by

transforming said frequency coefficient by said amount; (col. 6, lines 24-38; col. 8, lines

40-54; col. 10, lines 13-44) and

generating watermarked digital data contents. (col. 6, lines 24-38; col. 8, lines 40-

54; col. 10, lines 13-44)

Cox does not explicitly teach quantization width such that the larger the

complexity is, the larger said amount of data transformation. Admission in analogous

art, however, teaches quantization width such that the larger the complexity is, the

larger said amount of data transformation. (page 1, pp. 6) Therefore it would have been

obvious to one ordinary skill in the art at the time the invention was made to modify the

system disclosed Cox with Admission in order to suppress degradation of image quality

which may be caused by the watermark. (page 1, pp.6; Admission)

As per claims 3, 9, 15, 21 and 23:

Cox teaches a method for embedding digital watermark data in digital data

contents, said method comprising the steps of:

receiving said digital data contents and said digital watermark data; (col. 8, lines

36-39)

dividing said digital data contents into block data; (col. 8, lines 36-39)

obtaining a frequency coefficient of said block data; (col. 8, lines 40-54)obtaining

a complexity of said block data; (col. 8, lines 40-54)

obtaining an amount of transformation of said frequency coefficient from said

digital watermark data by using a quantization width corresponding to said frequency

coefficient, said quantization width being obtained beforehand according to a

manipulation method of said digital data contents; (col. 5, lines 47-58; col. 6, lines 3-49)

embedding said digital watermark data in said digital data contents by

transforming said frequency coefficient by said amount; (col. 2, lines 51-55; col. 6, lines

3-49) and

generating watermarked digital data contents. (col. 2, lines 51-55; col. 6, lines 3-

49)

Cox does not explicitly disclose digital data contents, wherein said amount of

transformation is obtained such that the larger a change amount of said digital data

contents due to processing by said manipulation method is, the larger said amount of

transformation is. Admission in analogous art, however, teaches digital data contents,

wherein said amount of transformation is obtained such that the larger a change amount

of said digital data contents due to processing by said manipulation method is, the

larger said amount of transformation is. (page 1, pp. 6) Therefore it would have been

obvious to one ordinary skill in the art at the time the invention was made to modify the

system disclosed Cox with Admission in order to suppress degradation of image quality

which may be caused by the watermark. (page 1, pp.6; Admission)

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

2.   Claims 2, 4, 8, 10, 14, 16, 20, 22 and 24 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Cox et al. (hereinafter Cox) US Patent Number 5,915,027 in

view of Applicants Own Admitted Art (hereinafter Admission) in view of Ho et al.

(hereinafter Ho) US Patent Number 6,983,057.

As per claims 2, 8, 14 and 20:

The combination of Cox and Admission teaches all the subject matter as

discussed above. In addition, Cox further discloses a method said step of obtaining

said complexity of said block data comprising the steps of: transforming said block data,

by applying a wavelet transform, into coefficients of said wavelet transform, and (col. 4,

lines 39-65) obtaining said complexity on the basis of the number of high frequency

coefficients in said coefficients of said wavelet transform, (col. 4, lines 39-65; col. 9,

lines 1-16) Cox does not explicitly disclose each of said high frequency coefficients

exceeding a threshold. Ho in analogous art, however, discloses each of said high

frequency coefficients exceeding a threshold. (col. 5, lines 38-43) Therefore, it would

have been obvious to one ordinary skill in the art at the time the invention was made to

modify the method disclosed by Cox and Admission with Ho in order to embed

watermark in the high frequency region. (col. 5, line 43; Ho)

As per claims 4, 10, 16, 22 and 24:

The combination of Cox and Admission teaches all the subject matter as

discussed above. In addition, Cox further discloses a method wherein said quantization

width is obtained by a method comprising the steps of: dividing first digital data contents

into one or a plurality of first block data; (col. 4, lines 38-65; col. 8, lines 36-39) dividing

second digital data contents into one or a plurality of second block data, said second

digital data contents being obtained by manipulating said first digital data contents with

a predetermined manipulation method; (col. 4, lines 38-65; col. 8, lines 36-39)

transforming said first block data and said second block data into first frequency

coefficients and second frequency coefficients respectively by applying an orthogonal

transform; (col. 4, lines 38-65; col. 8, lines 36-39) Cox does not explicitly disclose

obtaining difference values between said first frequency coefficients and said second

frequency coefficients for each frequency coefficient; calculating a standard deviation of

distribution of said difference values; and obtaining said quantization width by

multiplying said standard deviation by a watermark embedding strength. Ho in

analogous art, however, discloses obtaining difference values between said first

frequency coefficients and said second frequency coefficients for each frequency

coefficient; calculating a standard deviation of distribution of said difference values; and

obtaining said quantization width by multiplying said standard deviation by a watermark

embedding strength. (col. 7, line 45-col. 8, line 49) Therefore, it would have been

obvious to one ordinary skill in the art at the time the invention was made to modify the

method disclosed by Cox and Admission with Ho in order to perform different statistical

analysis of frequency coefficients to determine optimum off-set positions. (col. 8, lines 2-

3; Ho)

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to SHEWAYE GELAGAY whose telephone number is

(571)272-4219. The examiner can normally be reached on 8:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Emmanuel Moise can be reached on 571-272-3865. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. G./

Examiner, Art Unit 2137

/Emmanuel L. Moise/
Supervisory Patent Examiner, Art Unit 2137